

## **Website Management and Quality Assurance for Tracy Fish Facility Improvement Program Data**

### **Investigators**

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### **Summary**

The multi-disciplinary research investigations performed for the Tracy Fish Facility Improvement Program (TFFIP) produce a large amount of data and information from several data acquisition systems, technical reports, and experimental data that need to be centrally managed and peer reviewed in a consistent manner. There is a clear need for communication and sharing of data between researchers from very different technical disciplines, as well as a need to provide web-based "storefront" for program (secured access) and public (open) access to data and reports.

The goal of the Tracy Research Website for TFFIP is to develop and implement new fish collection, holding, transport, and release technology that will significantly improve fish protection at major water diversions in the south Delta region of the Central Valley of California. The website serves as a compilation of and access point for photos, data, and research reports that are developed to meet the goals of the research program.

As part of the Central Valley Project Improvement Act (CVPIA), TFFIP has been asked to participate in the development and implementation of data management protocols and metadata standards.

### **Problem Statement**

In conjunction with the TFFIP, there is an ongoing need to provide: (1) archival storage and controlled access for TFFIP researchers to all continuously collected data, research series reports, and data from research reports; (2) public information access via a world wide web site; (3) a way for TFFIP researchers, TFCF operators, and Tracy Technical Advisory Team members to compare and analyze data from different sources and disciplines by querying a web-based relational data base; and (4) a structure for quality assurance review and validation of data generated from experiments and data acquisition systems.

## Goals and Hypotheses

### Goals:

1. Update and modify program information, upload 2012 study plans, and new PDF reports as they become available. The following are Tracy Reports currently in process and planned for FY 2011 Publication:

Volume 27 – Hanna, L., R. Bark, B. Siegle, M. Bowen., B. Mefford, P. Johnson, and R. Lopez. 2009. *Passive Separator Fish Sorting Studies for Tracy Fish Salvage Facilities*.

Volume 44 – Wang, J.C.S. and illustrations by René C. Reyes. 2010. *Fishes of the Sacramento-San Joaquin River Delta and Adjacent Waters, California: A Guide to the Early Life Histories*.

Special Web-based Publication – Wang, J.C.S. 2010. *Fishes of the Sacramento-San Joaquin Estuary and Adjacent Waters, California: A Guide to the Early Life Histories*. Original publication: Interagency Ecological Program Technical Report Number 9.

Tech. Bul. 2011-1 – Reyes, René C. 2011. *Dichotomous Key to Fish Eggs of the Sacramento-San Joaquin River Delta*.

Volume 47 – Svoboda, Connie. 2011. *Modifications to Bypass System Operations to Improve Hydraulics at the Tracy Fish Collection Facility*.

Heiner, Bryan J. 2011. *Concept Level Design of Additional Fish Holding Tanks. Tracy Fish Collection Facility*. Hydraulic Laboratory Technical Memorandum PAP-1034.

Mortensen, Joshua D. 2011. *Concept Level Design of a Fish-Friendly Pump System. Tracy Fish Collection Facility*. Hydraulic Laboratory Technical Memorandum PAP-1035.

Volume 43 – Zehfuss, K., D. Sisneros, J.E. Boutwell, and B. Bridges. 2011. *Evaluation of Various Mechanical Debris Systems for the Removal of Naturally Incoming Debris at the Tracy Fish Collection Facility, Tracy, California*.

Volume 45 – Bark, R., W. Frizell, and B. Wu. 2011. *Sonic Tag Tracking Studies of Striped Bass Passage at the Tracy Fish Collection Facility*.

Volume 48 – Bowen, M. 2011. *Delta Smelt Salvage Efficiency: Effects of Primary Channel Velocity and Predator Removal*.

Technical Bulletin 2011-2 – Karp, C. and J. Lyons. 2011. *Evaluation of the Holding Tank on Delta Smelt (*Hypomesus transpacificus*)*.

Technical Bulletin 2011-3 – Portz, D.E., C. Yip, D. Pucherelli, C. Hueth, and B. Mefford. *The Use of Strobe Lights and Sound Wave Deterrents to Reduce Striped Bass Predation on Chinook Salmon and Delta Smelt.*

Technical Bulletin 2011-4 – Bark, R., B. Bridges, and M. Bowen. *Predator Impacts on Salvage Rates of Juvenile Chinook Salmon and Delta Smelt.*

Volume 49 – Portz, D.E. 2011. *Evaluation of Fish-Friendly Vacuum Pump Systems to Remove Salvaged Fish from Recessed Cylindrical Holding Tanks at the Tracy Fish Collection Facility.*

Volume 50 – Portz, D.E. and Z. Sutphin. 2011. *Effects of Fin Clipping for DNA Sampling on Physiological Stress, Swimming, and Survival of Chinook Salmon.*

Volume 51 – Hanna, L., C. Karp, and J. Lyons. 2012. *Vertical Sorting of Fish Using a V-shaped Separator.*

Volume 52 – Karp, C. and J. Lyons. 2011. *Evaluation of Fish Behavior Upstream and Downstream of the Mitten Crab Traveling Screen at the Tracy Fish Collection Facility.*

2. Develop metadata protocols in collaboration with IEP participants and begin implementation of standards.
3. Participate in CVPIA data management plan (DMP) development and aid TFFIP researchers in implementation of DMP.
4. Augment photo galleries to include more images.
5. Incorporate site traffic reports, within the limits of Bureau of Reclamation (Reclamation) website policy. This information can be analyzed to pinpoint strengths, weaknesses and potential areas of improvement of the website design and structure.
6. Coordinate with Reclamation Webmaster to maximize site potential.
7. Update and perform quality check of website on a regular basis to maximize currency and minimize errors, broken links, etc.
8. Check website and update for compliance with Visual Identity and annual site certification requirements.

## Materials and Methods

This activity will follow all Reclamation Web Standards and Directives as detailed on the Reclamation intranet: <http://intra.usbr.gov/web/>.

## Coordination and Collaboration

The Tracy Webmaster coordinates with TFFIP Manager and Tracy Series Editor on updating of information that is posted on the website including data, images, and Tracy Series Volumes and Technical Bulletins. The Tracy Webmaster also works with and coordinates with the Technical Service Center and overall Reclamation webmasters and IT personnel to insure that the Tracy website meets all required standards. In addition, the Tracy Webmaster manages inquiries from the public through the website which can either be handled directly or passed on to the appropriate resource for resolution.

## Endangered Species Concerns

None.

## Dissemination of Results (Deliverables and Outcomes)

We anticipate a completely updated website and the timely posting of all new Tracy Series Volumes and Technical Bulletins. The website will display evidence of current and regular updates. All required certification and standards will be completed and maintained (Section 515, Quality of Information and Section 508, Accessibility).

## Literature Cited

- Bureau of Reclamation. 2008. *Reclamation Web Publishing Manual*.  
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<http://intra.usbr.gov/web/download/Reclamation%20Web%20Manual%202-25-08.pdf>. (July 2009).
- Bureau of Reclamation. 2006. *Visual Identity Web Template Guidelines*.  
<http://intranet.usbr.gov/vip/IV-web.html>. (July 2009).